

Patent claims

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1. Method for producing two-channel or multi-channel pulse-width modulated rectangular pulses (Aa, Ab, Ac; Ba, Bb, Bc), in which, within a period (PE) exactly one pulse is discharged in each channel, and
 - 5 x) the inception of a pulse in relation to the moment of inception ($t_0, t_3, t_5, t_7, \dots ; t_1, t_2, t_3, t_4, t_5, t_6$) is delayed by an actual dead time (td),
 - x) the dead time (td) is kept constant for at least one period 10 in each case.
 - x) and for a modulation of the pulse width (PW, PW') a new value for the dead time (td') and/or a new value for the period duration is produced and the current dead time (td) and/or the current period duration is set at the beginning of 15 the desired period to the new value of the dead time (td') and/or the period duration.
2. Method according to Claim 1, characterized in that two consecutive pulses in different channels are each separated from each other in time by a 20 current dead time (td).
3. Method according to Claim 1 or 2, characterized in that the new value of the dead time (td') and/or the period duration is buffered independently of the current value of the dead time (td) and/or the period duration 25 and the current value is overwritten with the new value at the beginning of the desired period.
4. Method according to one of the Claims 1 to 3, characterized in that the dead time and/or the period duration is set to the new value (td') at the beginning of each period.
- 30 5. Method according to one of the Claims 1 to 4,

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characterized in that the maximum pulse width for a channel is set to the duration of the period divided by the number of the channels.

6. Method according to Claim 5,

5 characterized in that, with two channels, the maximum pulse width is set to half the duration of a period.

7. Method according to one of the Claims 1 to 6,

characterized in that, with n channels, after the duration of the pulse width has elapsed for the maximum pulse width for

10 the first to the (n-1) channel, an interrupt signal (rset) is created and the beginning of the dead time for the next channel is shown.

8. Method according to Claim 7,

characterized in that, at the end of a period an interrupt 15 signal (set) is generated, with which the beginning of the dead time for the first channel or the beginning of a new period is marked.

9. Method according to Claim 8,

characterized in that the overwriting of the current dead time 20 and/or of the current period duration with the new value for the dead time and/or for the period duration is initiated with the interrupt signal (set).

10. Device for producing two-channel or multi-channel pulse-width modulated rectangular pulses (Aa, Ab, Ac;Ba, Bb, Bc),

25 with exactly one pulse being discharged in one channel within a period (PE), the inception of a pulse in relation to the moment of inception (t0, t3, t5, t7, ...;t1, t2, t3, t4, t5, t6) being delayed by a current dead time (td), and the dead time (td) being kept constant in each case for at least one 30 period, and for a modulation of the pulse width (PW, PW') the control (CON) is set up so as to generate the new value for

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the dead time (td') and/or a new value for the period duration and to set the current dead time (td) and/or the current period duration at the beginning of the desired period to the new value of the dead time (td') and/or the period duration.

- 5 11. Device according to Claim 10,
characterized in that two consecutive pulses to different
channels are each separated from each other in time by a
current dead time (td).
- 10 12. Device according to Claim 10 or 11,
characterized in that it features two dead time registers, one
Dead Time Master Register (DTM) and one Dead Time Slave
Register (DTS), and that the new value for the dead time (td')
is buffered independently of the current value of the dead
time (td) stored in the Dead Time Slave Register (DTS).
- 15 13. Device according to one of the Claims 10 to 12,
characterized in that it features two period registers, a
Period Master Register (PMR) and a Period Slave Register
(PSR), and that the new value for the period duration is
buffered independently of the current value of the period
duration stored in the Period Slave Register (PSR).
- 20 14. Device according to Claim 12 or 13,
characterized in that it is set up to overwrite the value
stored in slave register (DTS, PSR) with the value buffered in
a master register (DTM, PMR) at the beginning of the desired
period.
- 25 15. Device according to Claim 14,
characterized in that it is set up to overwrite the value
stored in slave register (DTS, PSR) with the value buffered in
a master register (DTM, PMR) at the beginning of each period.